

Appl. No. 09/934,870
Amdt. Dated February 23, 2006
Reply to Office Action of December 2, 2005

Attorney Docket No. 83357.0001
Customer No.: 26021

REMARKS

This application has been carefully reviewed in light of the Office Action dated December 2, 2005. Claims 1, 3, 5 and 7-9 remain in this application. Claims 1, 3, 5 and 8 are the independent claims. Claims 1, 3 and 5 have been amended. Claims 2, 4 and 6 have been cancelled, without prejudice. It is believed that no new matter is involved in the amendments or arguments presented herein. Reconsideration and entrance of the amendment in the application are respectfully requested.

Allowable Subject Matter

Independent Claim 8 was allowed. In addition, Claim 9 is considered to be allowable for at least its dependency on Claim 8. Applicant thanks the Examiner and formally recognizes the allowable subject matter of Claims 8 and 9.

Art-Based Rejections

Claims 1-7 were rejected under 35 U.S.C. §102(e) over USPN 5,675,609 (Johnson). Applicant respectfully traverses these rejections and submits that the claims herein are patentable in light of the clarifying amendments above and the arguments below.

The Johnson Reference

Johnson is directed to information transmission systems that transfer signals from a transmitter to a receiver via sinusoidal half-wave signals. (*See Johnson, Col. 2, lines 33-66*).

The Claims are Patentable Over the Cited References

The present application is generally directed to a single side band (SSB) radio communication system.

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As defined by amended independent Claim 1, an SSB radio communication system includes amplitude modulating a carrier wave in a transmitting side by using modulation inputs. The modulation inputs include a constant amplitude, sine wave shaped reference pulse signal having a predetermined width and period, and sine wave shaped modulation pulse signals having the same width as the reference pulse signal and amplitudes representing two- or multi-value digital values based on the amplitude of the reference pulse signal. The amplitude modulated signals are transmitted on a single side band. Gains of received signals are automatically adjusted in a receiving side which are values of peaks of the received signals based on the reference pulse signal. The period or frequency of the reference pulse signal is formed in the transmitting side in synchronism with the carrier wave frequency. A local carrier frequency is determined in the receiving side based on the period or frequency of the reference pulse signal.

The applied reference does not disclose or suggest the above features of the present invention as defined by amended independent Claim 1. In particular, the applied references do not disclose or suggest, "the modulation inputs comprise a constant amplitude, sine wave shaped reference pulse signal having a predetermined width and period, and sine wave shaped modulation pulse signals having the same width as the reference pulse signal," as required by amended independent Claim 1.

Moreover, the applied references do not disclose or suggest, "automatically adjusting gains of received signals in a receiving side which are values of peaks of the received signals based on the reference pulse signal," and "determining a local carrier frequency in the receiving side, based on the period or frequency of said reference pulse signal," as required by amended independent Claim 1.

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Furthermore, the applied references do not disclose or suggest, "forming the period or frequency of said reference pulse signal in the transmitting side in synchronism with the carrier wave frequency," as required by amended independent Claim 1.

In FIGS. 11A-11B, Johnson discloses that the width of pulses P1 and P3 are different than the width of data symbol pulses P2 and P4. Moreover, Johnson discloses that the width of data symbol pulse P2 and the width of data symbol pulse P4 are different. According to Johnson, each width of these sinusoidal half-wave pulses P1, P2, P3, P4 is different from one another.

In contrast, the claims of the present invention require modulation inputs having a constant amplitude, sine wave shaped reference pulse signal having a predetermined width and period, and sine wave shaped modulation pulse signals having the same width as the reference pulse signal. According to the present invention, the reference pulse signal 'p' has a predetermined width and period, and the modulation pulse signal 'm' also has the same predetermined width and period as the reference pulse signal 'p'. (*See Spec., page 12, lines 9-23*).

In the present invention, gains of received signals are automatically adjusted based on the reference pulse signal 'p' in a receiving side which are values of peaks of the received signals. Based on the period or the frequency of the gained reference pulse signal 'p', local carrier wave frequency is determined. This local carrier wave frequency conforms accurately to the carrier wave frequency. Therefore, in a receiving side, demodulation can be more accurately accomplished. Moreover, the reference pulse signal 'p' is formed with its period or frequency synchronized with a carrier wave frequency. Thus, the period or the frequency of the reference pulse signal 'p' is obtained by frequency-dividing a carrier wave frequency.

Johnson does not disclose or suggest these features of the present invention as required by amended independent Claim 1.

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Since the applied reference does not disclose or suggest the above features of the present invention as required by independent Claim 1, as amended, that reference cannot be said to anticipate nor render obvious the invention which is the subject matter of Claim 1.

Accordingly, independent Claim 1, as amended, is believed to be in condition for allowance and such allowance is respectfully requested.

Applicant respectfully submits that independent Claims 3 and 5, as amended, are also believed to be in condition for allowance for at least the same reasons as those discussed above with reference to amended independent Claim 1 and such allowance is respectfully requested.

The remaining Claim 7 depends directly from independent Claim 5 and recites additional features of the invention which are neither disclosed nor fairly suggested by the applied reference and are also believed to be in condition for allowance and such allowance is respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as originally filed, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 337-6809 to discuss the steps necessary for placing the application in condition for allowance.

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If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,
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Date: February 23, 2006

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